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EXAMINER

KHOSHNOODI, FARIBORZ

ART UNIT

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2164

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DELIVERY MODE

07/22/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

**Supplemental
Notice of Allowability**

Application No.

10/822,499

Examiner

FARIBORZ KHOSHNOODI

Applicant(s)

MCCONNELL, CHRISTOPHER C.

Art Unit

2164

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7/7/2009 (Phone Interview).
2. ☒ The allowed claim(s) is/are 1-6, 9-16 and 19-24.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

/FK/

DETAILED ACTION

REMARKS

1. This supplemental examiner's amendment is for notice of allowance mailed on June 16, 2009, claims 2-6, 10-16, 19-21, and 23-24 (claims 7-8, 17-18, and 25-26 cancelled) are pending in the application, of which claims 1, 9, and 22 are presented in independent form.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unaccepted to applicant, an amendment may be filed as provided by 37 CFR 1,312. To ensure consideration of such an amendment, it **MUST** be submitted no longer later than the payment of the issue fee.
3. Authorization for this supplemental examiner's amendment for claims was given in a telephone interview with Ms. Amy O. Kwan (Phone No. 206-332-1380) (Registration number 59,829) for applicant on July 7, 2009.
4. The instant Examiner's amendment is directed to said entered amendment.

IN THE SPECIFICATION:

In the specification page 5 paragraph 19 amended and will **replace** with the following:
"[0019] Computer 110 typically includes a variety of computer readable media. Computer readable media can be any available media that can be accessed by computer 110 and includes both volatile and nonvolatile media, removable and non-removable media. By way of example, and not limitation, computer readable media may comprise computer storage media and

communication media. Computer storage media includes both volatile and nonvolatile, removable and non-removable media implemented in any method or technology for storage of information such as computer readable instructions, data structures, program modules or other data. Computer storage media includes, but is not limited to, RAM, ROM, EEPROM, flash memory or other memory technology, CDROM, digital versatile disks (DVD) or other optical disk storage, magnetic cassettes, magnetic tape, magnetic disk storage or other magnetic storage devices, or any other medium which can be used to store the desired information and which can be accessed by computer 110. Communication media typically embodies computer readable instructions, data structures, and program modules ~~or other data in a modulated data signal such as a carrier wave or other transport mechanism and includes any information delivery media. The term "modulated data signal" means a signal that has one or more of its characteristics set or changed in such a manner as to encode information in the signal.~~ By way of example, and not limitation, communication media includes wired media such as a wired network or direct-wired connection, ~~and wireless media such as acoustic, R.F., infrared, and other wireless media.~~ Combinations of any of the above should also be included within the scope of computer readable media."

IN THE CLAIMS:

Claims 1, 9, and 22 should be amended to the claim language as shown below. Claims 7-8, 17-18, and 25-26 are cancelled herein. All other claims i.e. 2-6, 10-16, 19-21, and 23-24 are accepted as indicated in the notice of allowance mailed on June 16, 2009. The complete set of claims will **replace** with the claims 1-26 as mailed on June 16, 2009 as follow:

1. (Currently Amended) A computer implemented system for resolving ambiguity comprising:

a processor;

the processor operatively coupled to a computer readable storage medium including program modules that include executable instructions, the computer readable storage medium including:

at least one program module that receives inputs;

at least one program module configured to parse a grammatical structure of the received inputs to identify a token not present in the received inputs, wherein the token includes a word that is statistically associated with documents that have grammatical structures similar to the received inputs;

at least one program module configured to add the token to the received inputs thereby generating a modified inputs; and

at least one program module configured to generate from the modified inputs, a collection of ranked interpretations representing a list of probable intent comprising a set of fragments of data types structurally compatible to other fragments in the set, wherein a fragment of the set of compatible fragments is generated by analyzing a grammatical structure of one or more of the modified inputs at a linguistic level, wherein the collection of ranked interpretation is determined based on a number of matching data types;

connecting to [[the]] a plurality of search providers and receives a collection of search results from at least one of the plurality of search providers and displaying results according to a

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specified expansion policy, in relevance order, as blocks of results from search providers, merged results from multiple search providers in relevance order and eliminate duplicate results.

2. (Original) The system of claim 1, wherein the inputs comprise a natural language request.

3. (Original) The system of claim 1, wherein the inputs comprise a filter.

4. (Original) The system of claim 1, wherein the inputs comprise a bias.

5. (Original) The system of claim 1, wherein the inputs comprise a culture.

6. (Original) The system of claim 1, wherein the inputs comprise a schema for data to be operated upon.

7. (Cancelled)

8. (Cancelled).

9. (Currently Amended) A computer implemented method for resolving ambiguity in a natural language request, the method comprising:

in response to receiving a natural language request and at least one input at a computer system, parsing a grammatical structure of the at least one input to identify a token not present in

the at least one input, wherein the token includes a word that is statistically associated with documents that have grammatical structures similar to the at least one input;

adding the token to the at least one input thereby generating a modified at least one input;
generating a plurality of ranked interpretations representing a list of probable intent comprising a set of fragments of data types structurally compatible to data types in the modified at least one input, wherein a fragment of the set of compatible fragments is generated by analyzing a grammatical structure of the request at a linguistic level; and

performing an action in response to at least one of the plurality of ranked interpretations;
connecting to ~~[[the]]~~ a plurality of search providers and receives a collection of search results from at least one of ~~the~~ plurality of search providers and displaying results according to a specified expansion policy, in relevance order, as blocks of results from search providers, merged results from multiple search providers in relevance order and eliminate duplicate results.

10. (Original) The method of claim 9, wherein the action comprises performing a search.

11. (Original) The method of claim 9, wherein the action comprises executing a command represented by the at least one of the plurality of ranked interpretations.

12. (Original) The method of claim 9, wherein the at least one input comprises a filter.

13. (Original) The method of claim 9, wherein the at least one input comprises a bias.

14. (Original) The method of claim 9, wherein the at least one input comprises a culture.

15. (Original) The method of claim 9, wherein the at least one input comprises a schema for data upon which the action will be taken.

16. (Original) The method of claim 9, wherein generating the plurality of ranked interpretations comprises:

analyzing the natural language request to determine a plurality of relevant terms,
associating each of the plurality of relevant terms with at least one structure of a plurality of structures in a schema associated with data upon which the action will be taken;
combining terms associated with the at least one structure to generate at least one interpretation of the plurality of interpretations; and
assigning a rank to the at least one interpretation.

17. (Cancelled)

18. (Cancelled)

19. (Original) The method of claim 9, further comprising receiving a set of parameters.
20. (Original) The method of claim 19, wherein the set of parameters comprises an expansion policy.
21. (Original) The method of claim 19, wherein the set of parameters comprises an interpretation generation policy.
22. (Currently Amended) A computer-readable storage medium comprising computer-executable instructions for:
- in response to receiving a natural language request, parsing the grammatical structure of the natural language request to identify a token not present in the natural language request, wherein the token includes a word that is statistically associated with documents that have grammatical structures similar to the natural language request;
 - adding the token to the natural language request thereby generating a modified natural language request;
 - analyzing the modified natural language request by analyzing a grammatical structure of the modified natural language request at a linguistic level to determine a plurality of relevant terms;
 - associating each of the plurality of relevant terms a data type to generate at least one fragment;

combining the at least one fragment with other compatible fragment to generate at least one interpretation of the natural language request representing a probable intent, wherein compatibility is determined based on matching words and matching data types;

assigning a rank to the at least one interpretation based on the number of matching data types;

connecting to [[the]] a plurality of search providers and receives a collection of search results from at least one of the plurality of search providers and displaying results according to a specified expansion policy, in relevance order, as blocks of results from search providers, merged results from multiple search providers in relevance order and eliminate duplicate results; and

interpretation providing the ranked interpretation to a search provider.

23. (Previously Presented) The computer-readable storage medium of claim 22, comprising further computer-executable instructions for performing a search.

24. (Previously Presented) The computer-readable storage medium of claim 22, comprising further computer-executable instructions for executing a command represented by the at least one interpretation.

25. (Cancelled)

26. (Cancelled)

ALLOWANCE

5. Claims 1-6, 9-16, and 19-24 are allowed over the prior art made of record.

REASON FOR ALLOWANCE

6. The prior art of record, Calcagno et al. (US 2003/0176,999 A1) describes a systems and methods for performing semantic analysis that interprets a linguistic structure output by a natural language linguistic analysis system. The semantic analysis system converts the linguistic output by the natural language linguistic analysis system into a data structure model referred to as a Semantic Discourse Representation Structure (SemDRS) (*See Calcagno et al. Par. 7*). Furthermore Calcagno et al. teach a system applies mapping rules which maps from portions of various possible underspecified discourse representation structure (UDRS) to SemDRS fragments to generate SemDRS. When the mapping is complete, the SemDRS fragments are assembled, if possible, according to the box structure of the UDRS (*See Calcagno et al. Par. 10*). Also as defined in Calcagno et al., the result of the application of the semantic mapping rules is a set of interpretation fragments that specify a mapping between a set of UDRS box elements and a set of SemDRS box elements (*See Calcagno et al. Par. 251*). Bolotinikov et al. (US 2003/0009352 A1) discloses a

method of scoring interpretation which provides an interpreter certification process for achieving a defined interpretation competency level in language pairs in industry-specific settings comprising the steps of: selecting interpreters by evaluating language proficiencies and interpretation skills of at least one interpreter candidate in at least one language pair; training at least one such selected interpreter in procedural standards of at least: interpretation, customer service, ethics, and call handling for different industries (*See Bolotinikov et al. Par. 10*). However, after careful consideration of the amendment filed on February 17, 2009, the applicant extensively and specifically pointed out how the claim amendments overcome the prior art of the record. Also the prior art made of record, do not disclose, teach, or suggest (in combination with other features in the claim), the claim limitation of, "...generating a plurality of ranked interpretations representing a list of probable intent comprising a set of fragments of data types structurally compatible to data types in the modified at least one input, wherein a fragment of the set of compatible fragments is generated by analyzing a grammatical structure of the request at a linguistic level; and performing an action in response to at least one of the plurality of ranked interpretations; connecting to the plurality of search providers and receives a collection of search results from at least one of plurality of search providers and displaying results according to a specified expansion policy, in relevance order, as blocks of results from search providers, merged results from multiple search providers in relevance order and eliminate duplicate results" in combination with the remaining elements as cited in independent claims 1, 9 and 22 as whole.

7. Dependent claims 2-6, 10-16, 19-21, and 23-24 being further limiting to the independent claims 1, 9, and 22 and enabled by the specification are also allowed.

CONCLUSION

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fariborz Khoshnoodi whose telephone number is 571-270-1005. The examiner can normally be reached on M-TH every other F 8:00-4:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Rones can be reached on 571-272-4085. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Examiner
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/Charles Rones/
Supervisory Patent Examiner, Art Unit 2164